

that attention has been called to it, this will prove true. This *Festuca* is in my herbarium, while specimens have been deposited in the Gray Herbarium, the Herbarium of the New England Botanical Club, and the Herbarium of the United States Department of Agriculture at Washington, D. C.

CAMBRIDGE, MASSACHUSETTS.

A FLORA OF THE NEW JERSEY PINE BARRENS.—Mr. Witmer Stone's¹ flora of southern New Jersey is one of the notable local floras of recent years. In the author's own words, "it places on record the present condition and history of one of the most interesting botanical areas in the United States,—the Pine Barrens of New Jersey." The introductory chapter is a detailed statistical study of the entire indigenous flora of southern New Jersey. It presents a division of the species into four groups; (1) the species of wide range north and south of New Jersey, (2) northern species which reach their southern limit in or near southern New Jersey, (3) coastal plain species which reach their northern limits between southern New Jersey and the northeastern extension of the coastal plain in Massachusetts, and (4) species of local distribution in or near southern New Jersey. A further analysis shows the composition of the flora of each of the five distinct floral districts; (1) The West Jersey, or middle district (covering the Delaware Valley region south of Trenton, and also the country below the fall line and north of the Pine Barrens), (2) the Pine Barrens, (3) the coastal strip, (4) the Cape May district, and (5) the maritime district. The floral analysis is similar to that in Prof. Fernald's recent discussion of the origin of the Newfoundland flora (v. RHODORA XIII, p. 135 et seq. 1911) and is likewise accompanied by maps illustrating the several types of distribution.

The author concludes that in the New Jersey Pine Barrens we have some of the sand and bog elements of a formerly wide-spread *austral* flora which has been largely "superseded" over most of the coastal plain by more "advanced" elements of similar origin. Mr. Stone weakens his own conclusion by classing many plants with floras to which they certainly do not belong. Thus, the typical pine-barren *Schizaea pusilla* and *Corema Conradii* are considered by Mr. Stone as boreal species which have been driven south, whereas there seems to be no escape from Fernald's conclusion that they are of austral origin. In listing the southern elements in the pine barren flora, Mr. Stone fails to distinguish between species which in the south are coastal only

¹ Stone, Witmer: The plants of southern New Jersey, with especial reference to the Flora of the Pine Barrens and the geographic distribution of the Species. Ann. Report N. J. State Mus. 1910. Part II, pp. 21-828, ff. 1-5, CXXIX plates + map. (Trenton, 1912.)

(e. g. *Lycopodium carolinianum*) and others which are high Alleghanian (e. g. *Leiophyllum buxifolium*). On the other hand *Rhododendron maximum*, an Alleghanian type, is listed as boreal, which it certainly is not! The detailed statements of species distribution in the author's own area, however, leave little to be desired. The data are based upon many years of active field work by Mr. Stone and his associates, Messrs. Bayard Long and S. S. Van Pelt, and on the critical study of more than 33,000 herbarium specimens. It appears from the frequent acknowledgment of his aid that Mr. Long also had a considerable share in the determinative work.

As in several late local floras, the systematic catalogue of the species is interpolated with keys to the families, genera, and species. The keys include introduced weeds, which, however, are not further mentioned except in brief foot-notes. The native plants are not described, but there are free notes on distribution, characters, local history, etc., which transform what would otherwise be a bare catalogue into an account which can be read for pleasure. The notes on *Schizaea* and *Corema* may be mentioned as among the more interesting ones.

It is not always clear why the author disposes as he does of some of the minor variations of species. For example, nothing would have thrown more light on the geographic affinities of the pine barren flora than the recognition of *Juncus effusus* var. *conglomeratus*, and further notes on its distribution. Again, should we not be told why the author fails to recognize the coastal plain beech as distinct from the Alleghanian form? In Maryland and Virginia, the varieties of *Peltandra* proposed by Mr. Tidestrom (RHODORA XIII, p. 47, 1910) are very distinct, although known from few stations. If Mr. Stone has found them frequently enough to feel confident in regarding them as individual variations, a more detailed discussion of them would be welcome. Other cases might be mentioned in which decisions between conflicting views regarding the taxonomic status of forms seem to have been made arbitrarily. This fault, however, is more than overbalanced by the care with which the record of every species admitted to the flora has been put on a firm basis. The author has spared no pains in searching out old indefinite records, which he has either substantiated or discredited. Another feature of the book which deserves high commendation is the accurate statement, for each species, of the date of flowering, ripening of the fruit, or maturation of the spores, as the case required. These data were supplied by Mr. Bayard Long, who also contributed an account of the methods and objects of his investigation (p. 115).

Mr. Stone's ideas on nomenclature, to the reviewer at least, are thoroughly objectionable. He believes, for example, that botanists should follow that zoological usage which permits old varietal names to displace later specific names. Happily, most botanists have not

been "playing the game" of nomenclature so long that it has been impossible to reconvert the erring ones to sound doctrine (on this point at least) before the "game" became too much an object in itself to be renounced. Even at the risk of seeming to lay undue emphasis upon points which in a local flora are comparatively unimportant, attention should be called to certain nomenclatorial practices which are either distinctly retrogressive or else totally at variance with the botanical traditions which should guide botanical authors. A distinctly retrogressive tendency is shown in the continued use of "duplicate monomials"; the method of author citation is an instance of useless and uncalled for violation of botanical tradition. Only one author (the one who first used the specific or "sub-specific" adjective) is cited,—in parenthesis if the name has been modified by later authors, but otherwise not. One need not look beyond the pages of the New Jersey flora to see how this method lends itself to error, for in the cases of seventeen out of the sixty "sub-specific" names which Mr. Stone uses, he has misapplied the parentheses. If zoologists commonly ascribe a quarter of the names they mention to authors who never published them, it is sincerely to be hoped that botanists will not follow zoological precedent.

A practice which cannot be too strongly condemned is that of making new combinations without in any way indicating them as new. (See Bot. Gaz. xliv, p. 304, 1907.) This Mr. Stone appears to have done in eleven cases among the sixty "subspecific" names in his book. There are also new combinations among the specific names. For example, *Panicum commonsianum addisonii* "Nash," *Carex leptalea harperi* "Fernald," *Rubus villosus enslenii* "Tratt.," *Euthamia graminifolia nuttallii* (Greene), *B[lephariglottis] canbyi* "Ames," and *Gyrostachys beckii* (Lindley) are all new combinations, but not indicated as such; those with the authority in quotation marks are moreover "falsely branded"; finally, all illustrate the abominable habit which zoologists have of decapitalizing personal names.

Except for nomenclatorial innovations "The Plants of Southern New Jersey" is a remarkably pleasing work. It has numerous carefully executed illustrations,—line-drawings, photographs of paintings by H. E. Stone, and photographs from nature. Some of them, especially the photographs of grasses and sedges, it would be hard to excel. It is safe to predict that none of the local floras now current will be longer held in esteem by botanists generally than this one of Mr. Stone's. To special students of the coastal plain vegetation it will of course be indispensable. Such a work reflects great credit not only upon its author but also upon the state which publishes it and upon those members of the Philadelphia Botanical Club whose enthusiastic cooperation made it possible.—H. H. BARTLETT, Bethesda, Maryland.